

REMARKS

Summary of the Office Action

Claims 1, 3-7, and 11-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yamazaki et al. (US 6,099,672).

Claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Admitted Prior Art in view of Ma et al. (US 6,285,434).

The Title of the Invention is objected to for not being descriptive.

Summary of the Response to the Office Action

Applicants have amended the Title of the Invention, and have amended claims 1, 7, and 15 to better define the invention. Applicants have further amended claim 7 to correct a minor informality.

Applicants respectfully submit herewith a Request for Approval of Drawing Changes and a Submission of Formal Drawings

In the Drawings

Applicants respectfully submit proposed drawing corrections provided with a Request for Approval of Drawings Changes filed concurrently herewith. Applicants respectfully submit proposed drawing corrections provided with a Request for Approval of Drawings Changes filed concurrently herewith. Applicants respectfully submit that the proposed drawing corrections do not introduce new matter, and is supported by at least paragraph [0044] of the instant specification.

Accordingly, Applicants respectfully request approval of the proposed drawing corrections. Applicants further submit herewith a Submission of Formal Drawings that include the proposed changes filed herewith.

Claims Define Allowable Subject Matter

Claims 1, 3-7, and 11-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yamazaki et al. (US 6,099,672), and claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Admitted Prior Art in view of Ma et al. (US 6,285,434). Applicants respectfully traverse these rejections for the following reasons.

Independent claims 1, 7, and 15, as amended, all recite, in part, a plurality of liquid crystal injection openings along edge portions "wherein each of the plurality of liquid crystal injection openings are arranged along vertical and horizontal line directions." In contrast to Applicants' claimed invention, the seal openings 315-318 taught by Yamazaki et al. are formed at an offset distance from edge portions of the panel 301. Similarly, the exhaust connectors 12 in Applicants' Prior Art FIG. 3 are each arranged only along a vertical line direction. Accordingly, Applicants respectfully submit that Yamazaki et al. neither teaches nor suggests the Applicants' claimed features of independent claims 1, 7, and 15 including a plurality of liquid crystal injection openings formed on edge portions, "wherein each of the plurality of liquid crystal injection openings are arranged along vertical and horizontal line directions." These claimed features are also completely lacking from Applicants' Prior Art FIGs. 1-3.

Applicants respectfully assert that the Office Action does not rely on Ma et al. to teach these features. Moreover, Applicants respectfully assert that Ma et al. cannot remedy these deficiencies.

For at least the above reasons, Applicants respectfully submit that claims 1-19 are neither taught nor suggested by any of the applied prior art references, whether taken alone or in combination. Applicants respectfully assert that the rejections under 35 U.S.C. §§ 102(b) and 103(a) should be withdrawn because the above-discussed novel combinations of features are neither taught nor suggested by any of the applied references, whether taken alone or in combination.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and reexamination of this application and the timely allowance of the pending claims. Should the Examiner believe that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

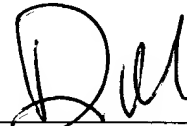
If there is any fee due in connection with the filing of this Amendment, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37

C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

The Title of the Invention has been amended as follows:

-- LIQUID CRYSTAL DISPLAY DEVICE HAVING INJECTION PORTS AND
LIQUID CRYSTAL INJECTION METHOD--

IN THE CLAIMS:

Claim 1 has been amended as follows:

1. (Amended) A liquid crystal display device, comprising:

a thin film transistor substrate, on which a plurality of data lines and gate lines are positioned perpendicular to each other;

a plurality of pixel electrodes formed near intersections of the data lines and the gate lines;

a color filter substrate positioned parallel to the thin film transistor substrate, including a color filter layer, a black matrix and a common electrode formed thereon;

a polymer wall arrangement formed either on the thin film transistor substrate or on the color filter substrate dividing the substrate into a plurality of liquid crystal panels; and

~~{at least one}~~ a plurality of liquid crystal injection ~~{opening}~~ openings formed on edge portions of each panel of the plurality of liquid crystal panels,

wherein each of the plurality of liquid crystal injection openings are arranged along vertical and horizontal line directions.

Claim 7 has been amended as follows:

7. (Amended) A liquid crystal injection method, comprising:

forming a polymer wall arrangement on a substrate;

dividing the substrate into a plurality of liquid crystal panels by the polymer wall arrangement;

connecting a plurality of liquid crystal injection openings formed on edge portions of the substrate and liquid crystal supply sections to the plurality of liquid crystal panels;

generating a vacuum inside at least one panel of the plurality of liquid crystal panels by pumping through at least one liquid crystal injection opening of the plurality of liquid crystal injection openings to create a high vacuum state in the panel;

defoaming liquid crystal in a defoamation pressing tank; and

injecting the liquid crystal from the ~~[defomation]~~ defoamation pressing tank to the panel through at least one liquid crystal injection opening of the plurality of liquid crystal injection openings,

wherein each of the plurality of liquid crystal injection openings are arranged along vertical and horizontal line directions.

Claim 15 has been amended as follows:

15. (Amended) A method for manufacturing a liquid crystal display device, comprising:

arranging a thin film transistor substrate parallel to a color filter substrate,

wherein the color filter substrate has a color filter layer, a black matrix and a common electrode;

forming a polymer wall arrangement, either on the thin film transistor substrate or on the color filter substrate, which divides the substrate into a plurality of smaller liquid crystal panels;

forming a liquid crystal injection opening on each of the small liquid crystal panels along edge portions of the one of the thin film transistor substrate or color filter substrate;

generating a vacuum inside of the substrate by pumping the liquid crystal injection openings;

defoaming a liquid crystal inside of a defoamation pressing tank; and

injecting the liquid crystal from the tank into the substrate through at least one of the liquid crystal injection openings,

wherein each of the plurality of liquid crystal injection openings are arranged along vertical and horizontal line directions.